

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in this application.

Listing of Claims:

1. (Currently Amended) An electrically electrical power assisting assisted steering apparatus provided with a torque limiter having a ring member formed with a plurality of radially outwardly curved projections for applying elastic force mounted between a worm wheel and an output shaft, wherein said output shaft is made of iron material, a gear portion of said worm wheel is made of synthetic resin material, and a core metal portion of said worm wheel is made of metallic aluminum material whose which has a specific gravity is smaller than that of said iron material of the output shaft and which has a coefficient of linear thermal expansion is larger than that of said iron material of the output shaft, and wherein the gear portion and the core metal portion are fixedly joined, whereby a change in spacing between said worm wheel and said output shaft as a result of differential thermal expansion therebetween operates to change a limit torque of said torque limiter from a lower value under high temperature to a higher value under low temperature.

2. (canceled)

3. (canceled)

4. (currently amended) An electrically electrical power assisting assisted steering apparatus comprising:

a worm wheel formed with an axial through hole at a center thereof,

an output shaft fitted in the axial through hole of said worm wheel, and

a torque limiter comprising a ring member formed with a plurality of radially outwardly curved projections for applying elastic force;

wherein said ring member is mounted between said worm wheel and said output shaft, and

wherein said output shaft is made of a first metal iron material, a gear portion of said worm wheel is made of synthetic resin material, and a core metal portion of said worm wheel is made of a second metal aluminum material whose which has a specific gravity smaller is than that of said first metal iron material of the output shaft, and whose which has a coefficient of linear thermal expansion is larger than a coefficient of linear thermal expansion that of said first metal iron material of the output shaft,

said gear portion and said core metal portion
being fixedly joined,
wherein said ring member of said torque limiter
comprises a substantially cylindrical thin metal member
made of spring steel and formed with a plurality of
radially outwardly curved projections, the substantially
cylindrical thin metal member being press-fitted on the
output shaft with said projections being in pressure
contact with an inner peripheral surface defining said
axial through hole of said worm wheel, and

whereby a limit torque of said torque limiter will vary based upon an operating temperature of said steering apparatus.

5. (canceled)

6. (canceled)

7. (new) An electrical power assisted steering apparatus comprising:

a housing made of aluminum;
an input shaft rotatably supported in said housing and connected at one end to a steering wheel;
an output shaft rotatably supported in said housing and connected at one end to said input shaft and

at the other end to a steering gear box, the output shaft being made of iron material;

an electric motor for steering assistance; a gear mechanism for transmitting rotation of said motor to said output shaft, the gear mechanism being received in said aluminum housing and including a worm gear rotated by said motor, and a worm wheel with an axial throughhole formed in a center thereof, in which said output shaft is fitted, the worm wheel being engaged with said worm gear;

said worm wheel comprising a core metal portion made of aluminum material which has a specific gravity smaller than that of said iron material of the output shaft and a coefficient of linear thermal expansion larger than that of said iron material of the output shaft, and an outer peripheral annular gear portion made of synthetic resin material and fixedly joined onto an outer peripheral surface of said core metal portion; and

a torque limiter comprising a substantially cylindrical thin metal member made of spring steel and formed with a plurality of radially outwardly curved projections, the substantially cylindrical thin metal member being press-fitted on the output shaft with said projections being in pressure contact with an inner

peripheral surface defining said axial throughhole of said worm wheel.

8. (new) An electrical power assisted steering apparatus according to claim 1, wherein said gear portion and said core portion are joined by way of chemical bond according to a composite molding technique.

9. (new) An electrical power assisted steering apparatus according to claim 1, wherein the outer peripheral surface of the core metal portion is formed with irregularities for strengthening the joining between said core metal portion and said resin gear portion.

10. (new) An electrical power assisted steering apparatus according to claim 9, wherein the outer peripheral surface of the core metal is toothed to provide said irregularities.

11. (new) An electrical power assisted steering apparatus according to claim 4, wherein said gear portion and said core portion are joined by way of chemical bond according to a composite molding technique.

12. (new) An electrical power assisted steering apparatus according to claim 4, wherein the outer peripheral surface of the core metal portion is formed

with irregularities for strengthening the joining between said core metal portion and said resin gear portion.

13. (new) An electrical power assisted steering apparatus according to claim 12, wherein the outer peripheral surface of the core metal is toothed to provide said irregularities.

14. (new) An electrical power assisted steering apparatus according to claim 7, wherein said gear portion and said core portion are joined by way of chemical bond according to a composite molding technique.

15. (new) An electrical power assisted steering apparatus according to claim 7, wherein the outer peripheral surface of the core metal portion is formed with irregularities for strengthening the joining between said core metal portion and said resin gear portion.

16. (new) An electrical power assisted steering apparatus according to claim 15, wherein the outer peripheral surface of the core metal is toothed to provide said irregularities.